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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Mohammed Nafie et al.
Serial No:	09/820,152
Filed:	3/28/2001
Art Unit:	2667
Examiner:	A. Boakye
Docket No.:	TI-30834
Conf. No.:	3960
Customer No.:	23494

CERTIFICATION OF FACSIMILE TRANSMISSION

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10-31-05 — Date

FACSIMILE COVER SHEET

X FACSIMILE COVER SHEET (1 SHEET)	___ AMENDMENT
___ NEW APPLICATION	___ EOT
___ DECLARATION	___ NOTICE OF APPEAL
___ ASSIGNMENT	X APPEAL BRIEF (5 Pages)
___ FORMAL DRAWINGS	___ ISSUE FEE
___ INFORMAL DRAWINGS	___ REPLY BRIEF (IN TRIPLICATE)
___ CONTINUATION APP'N	___
___ DIVISIONAL APP'N	

NAME OF INVENTOR(S): Mohammed Nafie et al.	RECEIPT DATE & SERIAL NO.: **Serial No.: 09/820,152**
TITLE OF INVENTION: Wireless Communication	**Filing Date: 3/28/2001**
TI FILE NO.: **TI-30834** / DEPOSIT ACCT. NO.: **20-0668**	**Conf. No.: 3960**
FAXED: **10/31/2005**	
DUE: **10/31/2005**	
ATTY/SEC'Y: **CHH/gs**	

Texas Instruments Incorporated
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Appl.No.:	09/820,152	Confirmation No.: 3960
Appellant:	Nafie et al	
Filed:	March 28, 2001	
TC/AU:	2667	
Examiner:	Boakye	
Docket:	TI-30834	
Cust.No.:	23494	

APPELLANTS' BRIEF

Commissioner for Patents
P.O.Box 1450
Alexandria VA 22313-1450

Sir:

The attached sheets contain the Rule 41.37 items of appellants' brief. The Commissioner is hereby authorized to charge the fee for filing a brief in support of the appeal plus any other necessary fees to the deposit account of Texas Instruments Incorporated, account No. 20-0668. A fee transmittal sheet is enclosed.

Respectfully submitted,

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Rule 41.37(c)(1)(i) Real party of interest

Texas Instruments Incorporated owns the application.

Rule 41.37(c)(1)(ii) Related appeals and interferences

There are no related dispositive appeals or interferences.

Rule 41.37(c)(1)(iii) Status of claims

Claims 1-9 are pending in the application with all claims finally rejected. This appeal involves the finally rejected claims.

Rule 41.37(c)(1)(iv) Status of amendments

There is no amendment after final rejection.

Rule 41.37(c)(1)(v) Summary of claimed subject matter

The invention provides a method of wireless communication with current estimation of a downlink transmission channel (e.g., gain and phase shift) from a current estimate of the uplink transmission channel modified by calibration factors. Figure 2 illustrates how downlink and uplink channels can differ even when the physical channel is the same: the difference is due to the gains and phase shifts of the power amplifiers and low-noise amplifiers. Figure 1 and application page 3, last paragraph through pages 4-5, bridging paragraph describe the claim 1 method of using information of the downlink channel and an estimate of the uplink channel to compute calibration factors which then can be used with later uplink channel estimates to compute later downlink channel estimates. That is, a one-time estimations of both downlink and uplink channels lead to calibration factors which then provide later downlink estimates from later uplink estimates; the one-time downlink estimation is transmitted uplink as information.

Rule 41.37(c)(1)(vi) Grounds of rejection to be reviewed on appeal

The grounds of rejection to be reviewed on appeal are:

(1) claims 1-9 were rejected as anticipated by the Fattouche reference.

Rule 41.37(c)(1)(vii) Arguments

(1) Claims 1-9 were rejected as anticipated by Fattouche; the Examiner pointed to column 9, lines 48-68 regarding the calibration factor of claim 1.

With regard to method claim 1, appellants reply that Fattouche column 9, lines 56-61 notes that the predistorter presumes the channel is reciprocal and uses the upstream channel estimate as an estimate for the downstream. In contrast, claim 1 requires a calibration factor calculated from both an upstream channel estimate and received information of a downstream channel estimate. Fattouche has no suggestion of the calibration factor of claim 1; rather, Fattouche presumes a reciprocal channel.

With regard to independent claims 8 and 9, these are apparatus claims corresponding to method claim 1 and the foregoing analysis of Fattouche again applies.

With regard to the dependent claims, appellants reply upon the patentability of the parent claims. Consequently, the claims are patentable over the Fattouche reference.

Rule 41.37(c)(1)(viii) Claims appendix

1. A method of wireless communication, comprising the steps of:

(a) transmitting a first packet on a transmission channel to a transceiver;

(b) receiving a second packet on a transmission channel from said transceiver, said second packet including information regarding the transmission channel to said transceiver;

(c) measuring the transmission channel from said transceiver;

(d) calculating calibration factors for said transmission channel to said transceiver using the information from step (b) and the measurement from step (c); and

(e) for transmitting a third packet on said transmission channel to said transceiver, estimating said transmission channel to said transceiver from said calibration factors and a second measurement of said transmission channel from said transceiver.

2. The method of claim 1, wherein:

(a) said calibration factors include a gain factor and a phase shift factor.

3. The method of claim 2, wherein:

(a) said gain factor is the ratio of an overall gain for transmission to said transceiver divided by an overall gain for transmission from said transceiver.

4. The method of claim 2, wherein:

(a) said phase shift factor is the difference of an overall phase shift for transmission to said transceiver minus an overall phase shift for transmission from said transceiver.

5. The method of claim 1, wherein:

(a) said transmitting is in a time division duplex mode.

6. The method of claim 1, wherein:

(a) said first packet includes a request for said transceiver to respond with information regarding the transmission channel to said transceiver.

Claim 7 (original) The method of claim 1, further comprising:

(a) updates of said information from said transceiver.

8. A wireless communication system, comprising:

(a) a master transceiver for a communication channel; and

(b) a slave transceiver for said communication channel;

(c) wherein said master transmits to said slave using estimates for said communication channel calculated from measurements of said communication channel for transmission received from said slave together with calibration factors from prior measurements of said communication channel by said slave and said master.

9. A wireless communication transceiver, comprising:

(a) a transmitter;

(b) a receiver coupled to said transmitter;

(c) said transmitter including a channel estimator and a wave shaper for transmitting to a transceiver, wherein said channel estimator estimates the channel to said transceiver from measurements of the channel from said transceiver together with calibration factors from channel information received from said transceiver.

Rule 41.37(c)(1)(ix) Evidence appendix

n/a

Rule 41.37(c)(1)(x) Related proceedings appendix

n/a